

WHAT IS CLAIMED IS:

1. A method for coating a semiconductor laser end face with a coating material by electron beam deposition by disposing a plurality of coat batches each constituted by semiconductor laser end faces on an array face having a central axis of a deposition beam as a normal line, wherein

the coat batches are disposed at positions in the same distances from a position opposed to the center of the deposition beam on the array face.

2. A method for coating a semiconductor laser end face with a coating material by electron beam deposition by disposing a plurality of coat batches each constituted by semiconductor laser end faces on an array face having a central axis of a deposition beam as a normal line, wherein

an angle-adjusting step for adjusting an incident angle  $\alpha$ ,  $\beta$  of the deposition beams to the coat batches is included so that thicknesses of films formed by the deposition beam on the coat batches should be within a predetermined range.

3. A method for coating a semiconductor laser end face with a coating material by electron beam deposition by disposing a plurality of coat batches each constituted by semiconductor laser end faces on an array face having a central axis of a deposition beam as a normal line, wherein

when an incident angle of a deposition beam to a coat batch positioned on the array face at a position opposed to the central axis of the deposition beam is assumed as a first incident angle and an incident angle of a deposition beam to a coat batch that is the largest incident angle of the deposition beam on the array face is assumed as a second incident angle,

an angle-adjusting step for adjusting at least the first incident angle so that the angle difference between the first and second incident angles  $\alpha$ ,  $\beta$  should be within a predetermined range.

4. A fixing frame in which a plurality of bar arranging jigs for housing a plurality of laser bars so that their respective end faces should face in the same direction when the semiconductor laser end faces are coated by electron beam deposition, wherein

an adjustment mechanism is provided to adjust an angle of each bar arranging jig with an array face assuming the central axis of the deposition beam in a fixing frame as a normal line.